AMENDMENTS TO THE CLAIMS:

Please amend the claims as detailed herein.

1. (Currently Amended) A method of high contrast imaging of semiconductor and metallic sites in an integrated circuit (IC), ~~comprising the steps of: setting up a device~~ that simultaneously produces two separate exclusive high-contrast images ~~of a sample~~ of said IC from one light source; ~~and refining said images to generate an exclusive high-contrast image of said semiconductor sites~~, the method comprising:

exciting said IC with a focused excitation beam from a light source;

transversely and axially scanning said IC by said focused excitation beam;

producing simultaneously a high-contrast confocal reflectance image $i_r(x,y,z)$ and a low contrast one-photon optical beam-induced current image (1P-OBIC) $i_s(x,y)$ of said IC;

deriving a first exclusive high-contrast image $s(x, y, z)$ of said semiconductor sites of said IC from a pixel to pixel product of said 1P-OBIC image and said confocal reflectance image using the equation: $s(x, y, z) = i_r(x, y, z)i_s(x, y)$ where $s(x, y, z) > 0$; and

deriving a second exclusive high-contrast image $m(x, y, z)$ of said metallic sites of said IC from a product of a complementary to said 1P-OBIC image and said confocal reflectance image using the equation: $m(x, y, z) = i_r(x, y, z)i_m(x, y)$ where $i_m(x, y) = \kappa - i_s(x, y)$ and κ is a constant that represents the highest $s(x, y, z)$ value that is possible for a given optical set-up.

2-3. (Canceled)

4. (Currently amended) The method of ~~claim 3~~claim 1, wherein ~~said microscope~~ said focused excitation beam is a beam-scanning confocal reflectance microscope ~~that simultaneously generates both a one-photon optical beam induced current (1P-OBIC) image and a confocal reflectance image of the IC sample~~.

5. (Currently amended) The method of ~~claim 3~~ claim 1, wherein said light source is selected from the group consisting of a laser and a spectrally filtered light source with a broadband spectrum.

6. (Cancelled)

7. (Currently amended) The method of claim 5, wherein said device includes a scanning mirror system having two galvanometer mirrors for x and y scanning, and two lenses that constitute a 4f transfer lens, wherein said light source ~~has an output beam that~~ is directed to said scanning mirror system ~~via a beam splitter~~.

8. (Currently amended) The method of claim 7, wherein said device includes another pair of lenses that expand and collimate said ~~scanned output~~ excitation beam and inputs said ~~scanned output~~ excitation beam to an optical microscope assembly.

9. (Currently amended) The method of claim 8, wherein said device includes an Infinity-corrected objective lens that focuses said excitation beam into ~~an exposed top surface of said integrated circuit~~ said IC.

10. (Currently amended) The method of claim 9, wherein said device includes a pair of digital-to-analog converters to achieve precise two-dimensional scan control of said focused excitation beam.

11. (Currently amended) The method of claim 10, wherein said device provides reflected light that is collected back by said Infinity-corrected objective lens and focused

by a lens towards a pinhole that is placed in front of ~~said~~ a photodetector.

12. (Previously presented) The method of claim 11, wherein said 1P-OBIC is measured by inputting an output of said pinhole that is nearest to a probe surface area to a current-to-voltage converter composed of an operational amplifier and a feedback resistor.

13. (Currently amended) The method of claim 12, wherein said device includes another converter input that is a common reference for electronic circuits including ~~the integrated circuit sample~~ said IC.

14-15. (Canceled)